

## Unit 1 Happiness

### Part 1

**TEACHER:** Hi, good morning. Did you hear about the lottery winner last night? The man won . . . what? . . . Two million dollars . . . ?

**STUDENT:** No, three.

**TEACHER:** Three million dollars? Three million. That's a lot of money isn't it? Do you think that three million dollars would make you happy? . . . I'm asking you this because when you ask people what they need to be happy, many people will answer "more money!" We *assume* that money will make us happier. But is this true? Will winning the lottery help you *achieve* happiness?

Today we're going to look at the idea of happiness, at the psychology of happiness—what makes some people happier than others. We'll look at three *personality factors* that we find in happy people. To find out about these *personality factors*, psychologists talked to hundreds of people. Now, first, they asked the people how happy they felt—you know, from "very happy" to "not happy at all." Then they asked some more questions. They wanted to find out about people's *personalities*, such as their *attitudes* about life, and so on. They looked at the differences between happy people and unhappy people. They found three *factors* that are very important for *achieving* happiness. So . . . let's look at those *factors* now.

The first *personality factor* is that happy people are . . . *satisfied* with themselves. This means that they like themselves as they are, and they're happy with what they have. Happy people may not like everything about their lives—they may be a little bit overweight, or may not have the best job, or may not live in a big, fancy house, but they don't *need* to change those things to be happy. They think more about the things they are *satisfied* with, not the changes they want to make. This feeling of happiness comes from the inside, not from something outside.

### Part 2

**TEACHER:** So . . . happy people feel *satisfied* with themselves. On the other hand, unhappy people are often dissatisfied with themselves. They . . . uh . . . feel that something must change so they can be happy. They think if they lose some weight or get a better job or a nicer house they will be happy. They are always looking for something outside themselves to make them happy.

But the problem is—they never find it! No matter what they get, they're still dissatisfied and unhappy.

The second *personality factor* is that happy people are *optimistic*—they look at the *positive* side of life, not the negative. Now, we all have problems, whether we're happy or not. But when happy people have problems, they *assume* that things will *improve*. They don't worry a lot and think about all the bad things that can happen. Instead, they have a *positive attitude*. However, unhappy people are the opposite. They are not *optimistic* and don't have a *positive attitude*. When they have a problem, they think about how bad everything is and *assume* that it'll get worse. So they make themselves even more unhappy when they think about all the bad things that might happen.

Finally, the third *personality factor* is that happy people have good *relationships* with other people. They try to have close, loving *relationships* with friends and family. Studies show that close, loving *relationships* are one of the *most* important *factors* in *achieving* happiness. So happy people don't spend all their time building their careers or trying to make money. They also spend time building *relationships* with friends and family. Now, on the other hand, unhappy people don't have as many close *relationships*. They may have trouble making friends. Or they may spend all their time working and then find that they're very lonely and unhappy. But for whatever reason, they don't have close *relationships* and this makes them unhappy.

So . . . what does this tell us? Well, if you want to be happier, don't *assume* that winning the lottery will help. There are other, more important *factors* for *achieving* happiness. Now, let's take a break, and when we come back we'll talk more about the *factors* that make a person happy . . .

## Unit 2 New Kinds of Food

### Part 1

**TEACHER:** Hi, everybody . . . how's it going? . . . Good. . . . Has everyone turned in their homework? All right, then let's get started. If you remember, last week we were discussing some research in the area of genetics. Today, I'd like to talk about something I'm sure you've all heard about—genetically modified or "GM" food. Genetically modified food is food—either a plant or animal—that has been *altered* in the laboratory by scientists. The scientists take something from one plant or

animal, and add it to a different plant or animal to make it grow in a different way. Today, we'll look at some of the **benefits**, and the possible **risks**, of genetically modified food.

Let's start with a discussion of some of the **benefits** of GM food. Genetic scientists are really trying to make food plants that are **better** than **normal** plants, to make plants that are **altered** in ways that make the plant grow better or taste better or be healthier to eat than **normal** plants.

One benefit is that genetically modified plants may need fewer **pesticides** than **normal** plants. For example, there is a type of corn that is bad for insects—when the insects eat the corn plant, they die. However, the corn doesn't hurt people. This type of corn is beneficial because farmers use fewer **pesticides** to grow the corn, and so there is less pollution in the **environment**. Also the corn is less expensive because the farmers don't have to spend a lot of money on **pesticides**. So, by using fewer **pesticides**, the corn is cheaper and the **environment** is cleaner.

Another **benefit** of genetically *modified* plants is that they may grow better than **normal** plants. One example is a type of genetically modified strawberry that can grow in cold weather. These are better than **normal** strawberries because farmers can plant the strawberries earlier in the spring and later in the fall, when **normal** strawberries usually die. So, as a result, farmers can grow many more strawberries than they used to. So that's another **benefit**—plants that grow better.

Finally, a third **benefit** is that many genetically modified plants stay **fresh** longer after they are **harvested**. So, for example, there is a kind of tomato that stays **fresh** in the store for about two months, instead of one or two weeks. This means that there is more time to get the food to the stores and that stores have more time to sell the food. Less food is thrown away and wasted. So it's a great **benefit** to have food that stays **fresh** longer—and we can **consume** more of the food we grow.

## Part 2

**TEACHER:** Now that we've looked at some of the **benefits** of genetically modified plants, let's talk about the **risks** of growing this type of food. We don't really know what the harmful effects are, but there are several things that people are worried about.

One **risk** is that the genetically modified plants may start to **dominate** the other wild plants in the **environment**. This is a problem with some types of tomatoes, for example. The new tomato plants are stronger than **normal** plants, and because they are stronger and grow faster than the wild plants, the genetically modified tomatoes

may start to **dominate** the **environment**, causing the wild plants to die. So having one plant **dominate** all the other plants isn't good for the **environment**.

Another **risk** is that genetically modified plants will hurt wild animals and insects in the **environment**. For example, the genetically modified corn I mentioned earlier has already caused this problem. Now some butterflies that live near the corn are dying—butterflies that are good insects, and don't eat the corn. It's possible that corn is killing the butterflies somehow, but we're not sure. We just know that more butterflies are dying than **normal**. But clearly there's a **risk** that genetically modified foods can hurt animals and insects in the **environment**.

But probably the most important **risk** is that genetically modified food may be harmful to the people who **consume** the food. The **alterations** in the plants may cause serious problems for people—we just don't know. Scientists are trying all kinds of new things, such as putting the genes from animals into a plant. For example, to make a fruit like strawberries stay **fresh** longer, scientists took a gene from a fish—a gene that helps the fish live in cold water—and put that into a strawberry. Will that strawberry be harmful to people? We don't know. But it may be.

So it's clear that there are some important **benefits** to genetically modified food but also some **risks**—**risks** that a lot of people aren't willing to take. So let's stop here and discuss any questions you have at this point . . .

## Unit 3 Public Art

### Part 1

**TEACHER:** Good morning everybody. I hope you all enjoyed our trip to the art museum last week. Today we're going to talk . . . uh . . . more about modern art. We'll . . . uh . . . take a look at some examples of public art—art you can only find outdoors . . . uh . . . in public places. I'll explain the purpose of public art, and . . . uh . . . then I'll describe some examples of public art that **illustrate** three common types of modern art: pop art, **realism**, and **surrealism**.

But first, public art. . . . These days public art is becoming more and more popular. Many business and city leaders are putting up art in public places—in parks and gardens, near office buildings, and so on. Cities like to put art in public places for a couple of reasons. Um . . . first of all, art helps to make our cities look more beautiful and interesting. Also, when art is outdoors, many people can look at it and enjoy it every day; they don't have to go to a museum. So having art in public places lets more people enjoy art every day.



Now, I'm going to move on to some examples of public art. Here's our first example—a silver spoon and a red cherry. This piece is *huge*: It's twenty-nine feet wide and over fifty feet long! It's made of metal—steel and aluminum. It's painted silver and bright red to look like a spoon with a red cherry on it. The sculpture is a good example of pop art. Pop artists like to make art that shows popular things—things people see in their everyday lives. This artist likes to take common objects, like food, and make them into *huge* sculptures. So what do you think about it? Anyone?

**STUDENT 1:** I think it's great! It's really unusual. I like it because it's simple and easy to understand.

**TEACHER:** Yes, that's why many people like pop art. Any other opinions? Yes . . . Mark?

**STUDENT 2:** Well, I think it's OK, but I . . . I think art that is out in public should be something important, something that's very beautiful or that means something. It shouldn't just be just some everyday thing, like . . . a spoon.

**TEACHER:** Interesting point. So you can see that one problem with public art is that people *interpret* the purpose differently—they disagree about what it should look like or mean. And some people may like or understand a piece of art, while other people may not like it at all.

## Part 2

**TEACHER:** As I already mentioned, one purpose of public art is to add beauty to public places where everyone can enjoy it. But another purpose of art is to *illustrate* ideas or *concepts*—to show some kind of meaning. Instead of using words, artists can send messages through their art to people who see it. Sometimes, artists even use their art to *promote* their own beliefs. To give you some examples, here are a couple of sculptures that were made to *promote* the *concept* of *peace*. The first one is a large—about sixteen-foot tall—metal sculpture that shows a young woman on a horse. Notice how real and lifelike the *features* of the woman and the horse look. Because they are so *realistic*, we call this style of art *realism*. But the woman in this sculpture is actually a symbol for *peace*. So in this example, the art is *realistic* and *symbolizes* a *concept*—the *concept* of *peace*.

Any questions so far? . . . OK then. Let's take a look at another sculpture that was made to promote the idea of *peace*. It's also made of metal and looks like a gun. It's a little smaller than the first example. It's about six feet wide and thirteen feet long—*huge* for a gun. It looks just like a gun, until you notice that it is tied into a knot at the end. We all know that it is impossible to tie a gun

into a knot, right? And so, because it's impossible, this sculpture is a great example of *surrealism*. Also, as you know, a gun itself doesn't *symbolize peace*. However, because the gun is tied into a knot and can't be fired, it *illustrates* the *concept* of *peace*.

And so, in these three examples, we can see how public art can be used to make our cities more beautiful and interesting, and we can see how public art can communicate ideas or *concepts* to people. Let's take a break now, and when we come back we'll look at some more examples of modern sculpture . . .

## Unit 4 Journey to Antarctica

### Part 1

**TEACHER:** Good afternoon. Please take your seats. I have a lot to discuss today. Today I'm going to talk about one of the greatest adventures of the twentieth century—Ernest Shackleton's trip to Antarctica. Now, there are other explorers who have been to Antarctica, but Shackleton's trip is especially interesting because his *goal* was to be the first person to walk across the continent of Antarctica. Also, as you'll find out, this trip was also special because of the problems and difficulties that Shackleton and his crew endured along the way. In fact—and this is interesting—Shackleton made his trip to Antarctica on a ship called the *Endurance*. It's almost as if he somehow knew about the difficult events to come.

Let's begin in England. The *Endurance* left London in 1914 with a crew of twenty-nine men, sixty-nine sled dogs, and a cat. After stopping in Argentina, the ship *proceeded* to South Georgia, an island about 800 miles from Antarctica. Then, on December 5, 1914, the *Endurance* left South Georgia. And right away, the ship entered water that was filled with ice. However, *despite* the danger, Shackleton and his crew *proceeded* on their journey. Shackleton believed that they could reach the Antarctic continent *despite* the ice. He was wrong about this, however, and on January 18, 1915, as the *Endurance* *approached* Antarctica, it became *stuck* in the ice; it couldn't go anywhere. The crew stayed on the ship, which *floated* along with the ice for more than *ten months*. During that time, the crew lived on the ship, although they could go down on the ice and walk around if it was not too cold.

On October 27, 1915, Shackleton ordered the crew to leave the *Endurance*. They took food and other *supplies* (including three smaller boats) off the ship and set up *camp* on a large piece of *floating* ice. This turned out to be a good decision, because just a month later, they watched as their ship was crushed by the ice and sank under the water.

## Part 2

**TEACHER:** So . . . is everyone with me so far? Any questions? . . . OK, then let's continue. For the next six months, the crew of the *Endurance* lived on the ice **floating** around the edge of Antarctica. They ate the food from the ship, but when that was gone, they hunted animals in the **area** and finally killed and ate their dogs. Finally, in April of 1916, the crew saw land. It was Elephant Island, which was about 100 miles away. They knew that the ice below them was getting thinner and might break at any time, so they decided to **proceed** to the island.

So, on April 9, 1916, Shackleton and his crew got into the three small boats they **rescued** from the *Endurance* before it sank. They put all their **supplies** in the boats and began the journey to Elephant Island. It took them seven days to get there. The journey was terrible and they all almost died.

So now the crew was on land, but there was no hope that they would be **rescued** from Elephant Island. It was too far away from anything. The nearest people were on South Georgia Island, over 800 miles away. **Despite** the danger, Shackleton decided to go to South Georgia. He knew it was their only hope for **rescue**. So on April 24, 1916, Shackleton and five men left in one of the small boats to try to get to South Georgia. Twenty men stayed on Elephant Island.

After seventeen days in stormy seas, Shackleton and his men reached South Georgia. But they weren't finished yet—they had to walk for thirty-six hours to reach the whaling station. Finally, on May 20, they reached the whalers. But remember—Shackleton still had to **rescue** his men on Elephant Island. This took more than three months. Three ships tried to get to Elephant Island, but they couldn't get there because of all the ice.

Finally, on August 30, 1916—twenty-two months after they left on their journey—Shackleton **rescued** his men. Amazingly, everyone on the island was alive and they were all **rescued**. It's hard to believe, isn't it? So, as you see, this is an important and interesting example of exploration from the last century.

Now let's take a look at some other famous explorers of the twentieth century . . .

## Unit 5 Violence on Television

### Part 1

**TEACHER:** Hello, everyone. Are you ready to get started? . . . OK. Today I'd like to continue our discussion of

violence in the media by **focusing** on television—on TV violence and its **impact** on children. First I'll discuss how much violence is on TV, and then we'll talk about the **impact** of TV violence on children. There's a lot of **debate** about this issue today because children watch a lot of TV, right?

TV has a huge **impact** on children; kids today watch *a lot* of TV. In the U.S., almost all families have a TV—ninety-eight percent. Many families have more than one TV. Fifty-two percent of children have televisions in their bedrooms, so they can watch TV whenever they want. And how much TV does the **average** child watch each day? Can anyone guess?

**STUDENT 1:** Two hours?

**TEACHER:** OK, that's one guess. Anyone else?

**STUDENT 2:** Four?

**TEACHER:** Yes. It's about . . . about three to four hours of TV every day, or almost 1,500 hours a year. Now, compare that to the amount of time that kids spend in school each year, about 900 hours, and you can see that TV must have a big **impact**.

Now, many people feel that children's shows, such as cartoons, are much too violent. Some people even feel that the violence on television is teaching kids to be more violent. But is this true? Is there a **link** between the violence children see on TV and real violence? To answer this question, I want to **focus** on some of the research—research that has been done to **assess** the violence on television and how it affects children.

To **assess** how much violence is on TV, research has **focused** on counting the number of **acts** of violence on TV in an **average** day. Now, this includes any **act** that could hurt or kill people in real life. Surprisingly, cartoons for children have *the most violence*—more than many shows for adults. Cartoons have an **average** of thirty-two violent **acts** per hour. So, thirty-two times every hour, one cartoon **character** hurts another **character** in some way. Well, you've seen this in cartoons, I'm sure. The **characters** hit each other on the head, or shoot each other . . . many different violent **acts**.

Other kids' shows have a lot of violence as well. For example, many kids' shows have **characters** that fight each other—hit and kick and punch each other—so those are very violent as well.

### Part 2

**TEACHER:** So, by counting all these **acts** of violence, we can **estimate** that by the time a child is twelve, he or she will have seen an **average** of about 100,000 **acts** of violence on television. That's about thirty violent **acts** per



day! But does the violence really cause children to *act* more violently? Well, that leads us to our second question: How do we *assess* the *impact* of TV violence on children?

First, we'll *focus* on some *immediate* effects of watching TV violence—what happens *immediately* after a child watches something violent on TV. In the first study we'll look at today, a group of children saw a TV show of a child hitting and kicking a doll. Then, after they watched the video, each child was left alone in a room with the same type of doll. And guess what? All the children in this study—100 percent—hit and kicked the doll, just like they saw on TV. So the *link* here between what kids see and what they do seems quite strong.

Another way to *assess* the effects of TV violence on children is to *focus* on the *long-term* effects—what happens many years after a child watches violent TV. Now let's talk about the second study. In 1960, researchers studied eight-year-old children in a typical American city. They studied how much violent TV the children watched and whether the children *acted* violently at home or at school. Then, ten years later, they studied the same children at age eighteen. The researchers found that children who watched a lot of violent TV at age eight were more violent at age eighteen. Children who watched less violent TV were less violent at age eighteen. So this study suggests that there is a *link* between TV violence and real violence—that watching violent TV has *long-term impact* on these kids.

So do these studies prove that TV violence causes children to be violent? Even with the research, many people still disagree about that. So, when we come back, we'll talk more about the *impact* of TV violence . . .

## Unit 6 Too Old to Learn?

### Part 1

**TEACHER:** OK, everybody. Let's get started. Today we're going to talk about the *critical period* in language learning. But first I'd like to ask you a question: How many of you have tried to learn a new language as a teenager or as an adult? . . . Ah, I see, quite a few of you. Well, then I'm sure you agree that it's much more difficult to learn a new language when we're *grown* than it was to learn your first language as a child, right? But do you know *why* it's so much harder? . . . No idea? Well, linguists believe it's because of the *critical period* of language development.

The *critical period* is a *theory* that explains why it is easier for children to learn languages than for adults. That's what I'd like to discuss today. But first, I'd like to start by

defining the *critical period* . . . and I'll give you some examples of a *critical period* in animals—in songbirds and cats. Then I'll talk about *evidence* for a *critical period* for language learning in humans.

So what exactly is a *critical period*? The idea of a *critical period* comes from the study of animals. We say that there's a *critical period*—the only time—when the animal can learn a new *skill*. Now, the *critical period* starts in the first weeks or months of an animal's life. During this time its brain is ready to learn new things. However, when the animal gets older, the *critical period* ends; it cannot learn any more. So there are *skills* that *must* be learned when the animal is young; if not, they *can't* learn them as adults.

Now, I'm going to move on to some examples. First, let's take songbirds. A songbird learns to sing the first few months after it's born by listening to its parents' song and repeating it. The bird can only learn to do this when it's a baby. An adult bird cannot learn to sing. So, if you *remove* the baby bird from its parents—so that it doesn't hear the song—the bird just won't learn to sing when it's older. So there is a perfect example of a *critical period*.

Take another example—cats. A kitten must learn to use its eyes in the first few weeks of its life. At first, the cat can't see very well. But over time, it begins to use its eyes. However, if you *remove* all the light in the room so the cat grows up in the dark, it won't be able to use its eyes. When the cat is an adult, it won't be able to see well. So there is another *critical period*—when a cat must learn to see.

### Part 2

**TEACHER:** Now let's look at the *critical period* for learning languages in humans. As you've probably noticed, children learn new languages much more easily and quickly than adults. But we don't really know why.

One *theory* is that there is a *critical period* for language learning. The *theory* is that people's brains change when they're *adolescents* and that these changes make it more difficult for adults to learn a new language than for children.

Of course, adults can learn—many adults learn to speak a new language. They may not speak it perfectly, but they speak it very well, well enough to use the new language for daily life. So we're not like adult songbirds, who can't ever learn a new song. We can learn.

That said, however, there is *evidence* for a *critical period* for learning to speak with a *native accent*. Somehow children can hear the different sounds better, and their mouth muscles can make the new sounds. In many cases,

a child will speak a new language with no foreign **accent** at all.

But generally, adults who learn a new language after **adolescence** speak with a foreign **accent**. They never learn to speak with a **native accent**, no matter how hard they try. It can be very frustrating. We may be able to hear the correct **accent**, but our mouths just can't pronounce the sounds correctly. Have you ever felt this way? So, unfortunately, this shows that there may be a **critical period** when **humans** must learn to speak with a **native accent**.

So we can **conclude** that there is a **critical period** when **both** animals and humans can learn certain things. For animals like birds and cats, they must learn to do things when they are still very young. Humans, on the other hand, can still learn some new things as adults, like languages, but it's more difficult. Adult humans have a **critical period** for learning new **accents**.

So, that's all for now. Let's get into our discussion groups. Does everyone have a copy of the handout?

## Unit 7 Are We Alone?

### Part 1

**TEACHER:** Hello, everyone. Is everyone here? Well, let's get started. We were talking last time about the possibility of other intelligent life in the universe. So that's where I want to pick up today. Today we'll look at the SETI project—that's the Search for Extraterrestrial Intelligence. This is a project to look for signs of intelligent life on other planets in the universe.

So . . . first, why do we think there may be other intelligent life in the universe? Well, it's because there are many, many other **galaxies** in the universe that could support life. We on earth, we are one planet going around one star. But our **galaxy** has **approximately** 400 billion other stars—stars that may have other planets where intelligent **beings** could live.

And, throughout the universe, there are at least 100 billion—that's **100 billion**—other **galaxies**. So most scientists think that somewhere in these 100 billion **galaxies**, there must be other planets that are similar to our earth and that at least one of those planets has other intelligent **beings**. We just have to **locate** them.

Now how does the SETI project search for life? The SETI project searches for life using large radio **telescopes**. These radio **telescopes** search for radio **signals** in space. They're looking for **signals** that could be from other intelligent **beings**. We hope that somewhere there are intelligent **beings** who are looking for us, who are send-

ing out a **signal**. Perhaps they are asking the same questions we ask: Are we alone? Is there anyone else out there?

Now, in my opinion, this is some of the most exciting scientific research being done today. Why . . . why is it so exciting? Well, I think that **locating** other intelligent life—if and when this happens—will completely change how we think about ourselves and about the universe. Just imagine—knowing that there are other **beings** out there, that we are not alone. So I think this is one of the most interesting areas to **investigate**.

### Part 2

**TEACHER:** So the SETI project tries to **locate** intelligent **beings** in the universe by searching for radio **signals** from space. But why radio **signals**? Well, there are two reasons radio **signals** are better. First, they travel very quickly. Second, they have a long **range**—they can go very far into space.

So how fast do radio **signals** travel? Well, they travel very quickly, at the speed of light. So, for example, the nearest **galaxy**, Alpha Centauri, is **approximately** 4.2 **light years** away. Traveling at the speed of light, it takes four years for a radio **signal** to reach us. On the other hand, the fastest rocket only travels about ten miles per second. At that speed, it would take 60,000 years to reach the Alpha Centauri **galaxy**. So radio **signals** are definitely faster.

Now what is the **range** of radio **signals**? Well, they have a very long **range**—they could travel through several **galaxies** to reach Earth. Radio **signals** can also travel through space dust and other things floating around in space. So if any intelligent **beings** in other **galaxies** are sending radio **signals**, there's a good chance that the **signals** can reach Earth. . . . I see a question.

**STUDENT:** Yes. Why don't we just send rockets to look for intelligent life?

**TEACHER:** Good question; I'm glad you asked. Well, for one thing, they're much slower. Unlike radio **signals**, rockets can't travel at the speed of light. Also, they don't have a very wide **range**. In addition, you're **restricted** to looking in one direction—you point the rocket in one direction and go that way. But we can search for radio **signals** in every part of the universe, not **restricting** ourselves to one direction. So overall, you can see why searching for radio **signals** is better.

OK, so that's all for today. Next time we'll talk more about this and talk about what we will do when we hear a **signal**—a very important question. So think about that: What should we do when we hear a **signal** from another intelligent **being**? Until then, have a good week. I'll see you next time.



## Unit 8 Do the Right Thing

### Part 1

**TEACHER:** Ethics. . . Most of you are probably familiar with this term. But what does it mean? Ethics are the rules we follow to decide what is right and what is wrong. So, in this class, we'll be asking ourselves: What is ethical in different situations? How do we decide what is right or wrong? We'll look at different ethical *principles* to do this. We'll use these ethical *principles* to *analyze* a situation and *justify* our decision about what to do.

So . . . today we're going to use an example—the example from your homework—and look at it from two different ethical *principles*. We'll look at it from the *principle* of “*individual rights*” and the *principle* of “*common good*.” Let me repeat that . . . we're going to look at two *principles*.

First, I'll just review the example. A woman is dying. She has \$10,000 in the bank, but she has no family. The woman tells her friend to use her money to hold a very expensive *funeral*. She tells the friend to buy a lot of flowers and the most expensive coffin. However, the friend thinks this is a waste of money. The friend decides to use some of the money for a simple *funeral*, and then give most of it to a school for homeless children. However, the friend lies to the woman and says he will use all the money to pay for the *funeral*.

Now, is this lie ethical? Let's start with the *principle* of *individual rights*. The *source* of this *principle* is the writing of Immanuel Kant, the German philosopher of the eighteenth century. Kant had believed that our most important *right* as humans is our *ability* to think and make decisions. Unlike an animal, each person has the power to make choices and think about what we're doing. Animals cannot think and decide like people can. This *ability* to think is what makes us human. Therefore, to be ethical, you must think: Am I *respecting* the *right* of other people to think and make decisions? So that's how we can define the *principle* of *individual rights*—to *respect* other people's *right* to think and make decisions.

So . . . what would Kant say about our example of the dying woman and her friend? Can we *justify* the lie under the *principle* of *individual rights*? Well, using this *principle*, the friend's lies are ethically wrong. Actually, *any* kind of lie is wrong, because each person has the right to know the truth. Lying is wrong because when we lie, we take away the other person's *ability* to think and make decisions. So in our example, the friend is not *respecting* the dying woman's *right* to make decisions about her money. So, following the *principle* of *individual rights*, the lie is not ethical. It is wrong. Do you see that?

### Part 2

**TEACHER:** Now let's look at the problem using another ethical *principle*, the *principle* of *common good*. Let's start by defining *common good*. The *source* of the *principle* of *common good* is the writings of Jeremy Bentham, who lived in England during the seventeenth and eighteenth centuries. *Common good* basically means choosing whatever is good for *most* people. This *principle* says that it is OK to hurt some people sometime but only if the same action helps more people.

So basically, the *principle* of *common good* means that, to be ethical, we should choose the action that helps the most people and hurts the fewest people. I'll repeat that. The action that helps the most people and hurts the fewest people. . . . Got that? . . . OK.

So let's look at our example of the dying woman and her friend. What are the choices here? Well, the friend can tell the truth to the dying woman. He can tell her that he won't have the expensive *funeral*, that he'll give the money to the school. But then what? The dying woman may disagree. She may decide to pick someone else to organize the *funeral*, someone who will follow her wishes. And she'll get mad at her friend. So from a *common good* viewpoint, this is not a good choice. The woman gets mad, the friend gets hurt, and the school doesn't get any money.

On the other hand, if the friend lies, he helps more people than he hurts. Sure, the dying woman will not get her wish, but many children will be helped because they will get a better education. Also, you can say that the children with a better education will be better people, will earn more money in their jobs, and give more to society. So, following the *principle* of *common good*, the friend can *justify* the lie to the dying woman. One person will be hurt, but many people will be helped.

So I've just explained the difference between the ethics of *individual rights* and the ethics of *common good*. Now let's look at some more examples and *analyze* the ethics of these new examples . . .

## Unit 9 A Good Night's Sleep

### Part 1

**TEACHER:** Hi, everyone. Let's get started. Do you have the handout from our last class? OK, for homework, I asked you to answer the questions on your handout about sleep. Let's look at the first question: How many hours of sleep did you get last night?

**STUDENT 1:** Six hours.

**TEACHER:** Hmm, I see. Anyone get less sleep than that?

**STUDENT 2:** I got five hours of sleep.

**TEACHER:** Only five hours? Well, I hope you can stay awake during my lecture today. Well, later we'll talk some more about our own sleep *habits*. But first, today I'm going to talk about the problem of sleep *deprivation*—of not getting enough sleep. I'll talk about some of the causes of sleep *deprivation* and then some of the effects.

Let's start with the problem of sleep *deprivation*. Many people don't *recognize* that this is a serious health problem. However, today, more and more doctors are becoming worried about it. In fact, some call it the biggest health problem today! Most people today are *deprived* of sleep; they simply do not get enough sleep each night—and from your answers to the *survey* questions today, we can see that this is true in this class as well.

Every year, the National Sleep Center does a *survey* in the United States, asking people about their sleep *habits* and the effects of sleep *deprivation* on their lives. The results are quite dramatic. The information I'll give you today is from that *survey*.

First, what are the causes of sleep *deprivation*? Why don't we get enough sleep? You may be surprised to learn that our modern lifestyle—that is, the way we live our lives—*creates* many of our sleep problems. People today are very busy; they're working more and more hours every day. In fact, did you know that more than 30 percent of American adults work more than fifty hours a week? Well, as a result, there's less time to do other things, like read or pay bills or clean house, so people stay up later and get less sleep.

The problem is also *created* by modern technology. A hundred years ago, after the sun went down, there wasn't much to do. Everything was dark, and people went to sleep early. Now everything is turned on twenty-four hours a day. Think about it—we have electric lights, TV, and the Internet. You can watch TV or listen to music or work on the computer any time, and that makes us stay up later. In fact, 43 percent of Americans say that they often stay up later than they should watching TV, or using the Internet. How many of you would say that . . . that you don't go to sleep when you should because of the TV or the Internet? . . . Yeah, sometimes it is hard to stop doing all those things and go to bed.

## Part 2

**TEACHER:** Now I'm going to move on to the effects of sleep *deprivation*. Everyone needs a certain amount of sleep; our bodies *require* a certain amount of sleep to *function* well. Now, most people *require* a *minimum* of eight hours of sleep each night, although some people

need more and others need less. But most people don't get enough sleep. Every night, many people sleep only five, six, or seven hours, instead of eight.

So now, what are the effects of sleep *deprivation*? The most common effect is, of course, sleepiness during the day. Let me ask you . . . when do you feel sleepy?

**STUDENT 1:** After lunch.

**STUDENT 2:** When my alarm clock wakes me up in the morning.

**TEACHER:** Yes, both of those are very common. Many people have trouble waking up and getting out of bed in the morning. And a lot of us feel sleepy after lunch. We may feel that it's normal to feel sleepy at those times. But really, it's *related* to sleep *deprivation*; it's an effect of not getting enough sleep. If you get all the sleep you need, you won't feel sleepy during those times.

So . . . most people feel sleepy during the day. One *consequence* of this is mistakes at work. Without enough sleep, we don't *function* well—we don't have enough energy and . . . uh . . . we can't always think very clearly. And there are many people at work each day who need more sleep. About 50 percent of Americans say they're usually sleepy at work. And about 20 percent say they make mistakes at work because they're sleepy. These mistakes can cost a lot of money or can cause accidents that hurt or even kill people!

Another *consequence* of sleep *deprivation* is car accidents. In the United States, there are 100,000 sleep-*related* accidents each year, causing 71,000 injuries and 1,500 deaths. But people don't *recognize* that driving while you're sleepy is very dangerous; it can have serious *consequences*. Too many people—more than 50 percent of Americans *surveyed*—say that they sometimes feel sleepy when they're driving. Almost 17 percent report that they sometimes fall asleep while driving. So this is a great health danger.

So, as you can see, we need to *recognize* that sleep *deprivation* is a serious problem. We need to find out what *creates* the problem and figure out a way to change our sleep *habits*, to educate people about getting more sleep. As a first step, let's look at our own sleep *habits*. Please take out your homework again . . .

## Unit 10 Negotiating for Success

### Part 1

**TEACHER:** Good morning, everybody. So last class we began talking about negotiation, the negotiation process. And we started to talk about some of the *techniques* you can use to *communicate* better in a negotiation. So that's where we'll start today.



One of the most difficult *issues* in negotiation is when one side *blames* the other for something. And this is very common, when one side feels that the other did something wrong or caused the *conflict* in some way. So what I'm going to talk about today is a *technique* to help you *communicate* better during this type of negotiation.

Let's start with an example. Let's say . . . that you are having a *conflict* with a co-worker. Now, my co-worker—let's call him Joe—Joe and I are working on a project together. But Joe didn't finish his work on time. And because of this, I couldn't finish my work on time either. We need to give the project to our boss, but it's not ready. The boss is angry. I *blame* Joe for this problem.

Now, let's *imagine* that I go into Joe's office to talk to him. And I say . . . what I'm really thinking, for instance: "Joe, you aren't doing your work. The project's going to be late because of you." . . . OK, so this is one way to explain the *issue*. But how do you think Joe will *react* to this? How will he feel? Happy? Ready to *communicate* with me?

STUDENT: Angry. I'd be angry.

TEACHER: Yes, I think so. And do you think Joe will want to sit down with you and *solve* your problem?

STUDENT: No.

TEACHER: No, I doubt it. Actually, you've probably made the problem worse. What's happening here is that you are *blaming* Joe for the problem. He will get angry and won't want to *communicate* with you.

## Part 2

TEACHER: So, as you can see, it is important not to *blame* the other person for the problem. You may want to say, "This is your fault. You caused this problem." And even though this may be true, it will not help you *solve* the problem.

So now I'll introduce a *technique* you can use to *avoid blaming* someone. This *technique* is called "using 'I' statements." What you do is, you start sentences with the word "I." Say something like "I am upset about this problem." With this "I" statement, you *avoid blaming* the other person. You are explaining how you feel, how the problem *affects* you.

So . . . let's go back to our example of Joe and the project at work. Let's see how we can rewrite the conversation using "I" statements. So, for instance, instead of saying "Joe, you aren't doing your work," let's make an "I" statement. OK. Let's change that to "Joe, I'm worried because the work isn't done." OK. Do you hear the difference?

Instead of blaming Joe for his late work, you are explaining how the problem *affects* you, that *you* are worried.

Let's try another one. Umm . . . "The project's going to be late because of you." . . . We can change that to "I'm afraid that the project's going to be late." . . . Again, now you are not blaming Joe. Instead, you are explaining how you feel.

When a negotiation doesn't work, the problem is not usually the *issues* in the negotiation; most problems can be *solved* with enough time and communication. No, problems are caused by the way the people on both sides *feel* about the negotiation. So you need to *avoid* anything that will make people feel angry or upset. And using "I" statements is one way to develop that.

OK, that's all our time for today. Next time . . . next time we'll talk about some more negotiation *techniques* . . .

## Unit 11 Risking It

### Part 1

TEACHER: Today, I'm going to talk about risk—or how people think about risk. First, I'll discuss . . . uh . . . two concepts—*perceived* risk *versus* *actual* risk. Then I'll talk about why we worry about some risks more than others.

There are two important terms you need to understand before we begin—*perceived* risk and *actual* risk. *Perceived* risk is the way a person thinks about risk. *Perceived* risk is how risky, or unsafe, a person *thinks* an activity is. Uh . . . this is opposed to *actual* risk, which is the *true* risk—the risk of something if you actually look at how many people are hurt or . . . uh . . . *injured* by an activity.

So . . . uh . . . let's begin with an example, an example of *perceived* risk *versus* *actual* risk. Let's compare two ways to travel: flying *versus* driving a car. Many people drive a car each day, but they don't worry about it very much. They know that there is a risk of an accident, but most people will not say they are *afraid* of driving. They feel that the risk is low. So the *perceived* risk of driving is low. On the other hand, many people worry about flying. They are afraid that the airplane will have an accident and crash. They feel that the risk of flying is higher than the risk of driving. The *perceived* risk of flying is high.

However . . . um . . . in these two examples, the *actual* risk is very different than the *perceived* risk. The *actual* risk of driving a car is high. Many, many more people are actually hurt or *injured* in car accidents than

in airplane accidents. The **actual** risk of flying is low. In fact, flying is forty times safer than driving a car. But our **perception** is that flying is more dangerous. Why? Why do we worry about some risks more than others? Well, it turns out that we **perceive** risk differently in special **circumstances**. Some factors make a person feel that an activity is less risky. Some make us feel that an activity is more risky. But the **circumstances** really change our **perception**.

## Part 2

**TEACHER:** There are three factors that make us feel that an activity is less risky. Uh . . . the . . . um . . . first factor is **control** . . . uh . . . whether the risk is an activity we **control** as opposed to one we don't **control**. In **circumstances** where we have more **control**, we feel there is less risk. For example . . . uh . . . let's look again at driving a car **versus** flying in an airplane. When we drive, we **control** the car. We decide where to drive and how fast to go. Therefore . . . uh . . . we feel that driving is less risky. However, when we fly in an airplane, we do **not control** it. Someone else is flying it. So we feel it is more risky.

The second factor is whether the risk is **natural versus** unnatural. When a risk is **natural** . . . uh . . . we feel that there is less risk. Uh . . . for example, we can compare being near a nuclear power plant as opposed to being out in the sun. Nuclear power plants are unnatural—that is, they're created by people—so we feel that they have a **significant** risk. The sun is **natural**, so we feel that it's low risk. However, many more people get cancer each year from the sun than from nuclear power. So being in the sun has a higher **actual** risk. But we feel that being in the sun is less risky because it's **natural**.

Um . . . finally, the third factor is how common the activity is—that is, whether the risk is part of an **everyday** activity, in . . . uh . . . contrast to an unusual event. When the risk is an **everyday** activity, we feel that there is less risk. For example, let's look at our feelings about accidents in the home **versus** an airplane accident. Uh . . . as I said before, flying is not a risky way to travel. Airplane accidents are unusual, but they do sometimes **occur**. When there is an accident, it is reported in the news and it gets lots of attention. So . . . uh . . . people worry about these accidents more. However, accidents in the home **occur** all the time. Each day, many people are **injured** or even killed doing **everyday** things like . . . uh . . . walking down the stairs. But we don't worry about these **everyday** risks as much.

So you can see from these examples that people's **perception** of risk is very different from **actual** risk, and . . . uh . . . you can understand some of the reasons why . . .

# Unit 12 The Electronic Brain

## Part 1

**TEACHER:** As we have seen in this class, the history of the computer is a long one, starting with ideas from the seventeenth century. But today I'll be discussing a turning point in the history—a time when the dream of a computer became reality. I'm talking about the building of ENIAC—spelled E-N-I-A-C—the first electronic computer.

There are several **elements** to this story. I'm going to start by discussing the reasons why the computer was built. Then we'll look at the two **engineers** on the project, the men who **designed** the computer. Then I'll describe the computer itself. Finally, I'll tell you what happened after ENIAC was built—what happened to the **engineers** who built it and to the computer itself.

So let's begin with the reason why the computer was built. Work on ENIAC started in July of 1943, in the middle of World War II, at the University of Pennsylvania. It was a secret project paid for by the United States Army. **Previous** to ENIAC, the Army had groups of young women who did the **calculations** for their scientific projects. These women were actually called "computers." These women, the computers, they worked with adding machines to do the **calculations by hand**. Of course, this was very slow. And they made some **errors**. The Army wanted a way to do faster and better **calculations**. For this reason, they decided to try to build an electronic computer.

Now several scientists at this time were thinking about ways to **design** a computer. But most felt it was too difficult, using the **technology** of the time. However, the army really needed a way to do faster **calculations**, so it was willing to take this risk, to try building it. And so the project to build ENIAC began.

OK. Let's look at the **engineers** on the project. The two **engineers** who **designed** the computer were named John Mauchly and J. Presper Eckert. The first **engineer**, John Mauchly was a physicist. He was 35 years old when the ENIAC project started. He first became interested in building a computer because he wanted to predict the weather. But the **calculations** for this were impossible; it would take years to compute all the world's weather information. So he became interested in the idea of doing the **calculations** electronically. J. Presper Eckert, the second **engineer** on the ENIAC project, was much younger. He was only 24 years old when he started work on it. He was a Ph.D. student studying electrical **engineering**. He was a brilliant **engineer** who, from the



time he was a child, loved to design **complex** electronic machines. In this team, Mauchly was the idea guy. He had a lot of great ideas. Eckert was the **engineer**; he found a way to make the ideas work. These two men were probably the most important **elements** of the project. They worked very well together, and were brave enough—or maybe crazy enough—to try something totally new.

## Part 2

**TEACHER:** Now, what did ENIAC look like? Well, if we compare it to computers today, of course they are very different. First, ENIAC was really big. The machine filled an 1,800-square-foot room—that's about the size of a large three-bedroom apartment. Each part of the computer was about nine feet tall.

ENIAC was a very **complex** machine. The **designers** had to **program** the computer to add, remember numbers, and so on. There were forty different **elements**, in a U-shape around the room. In many ways, it was amazing that ENIAC worked at all. It had thousands and thousands of electronic parts. Each **element** had to work perfectly. But it did! It did the **calculations** and didn't make any **errors**.

ENIAC could do 5,000 **calculations** per second—much more than any **previous** calculating machine. Of course, compared to computers today, this is slow. Computers today do 100 million **calculations** in one second. Today, you can put the computing power of ENIAC on a chip the size of the end of your pencil! But ENIAC was much faster than other machines at that time.

It took two years to build ENIAC. It was finished in the fall of 1945 and shown to the public in February 1946. For many, it was the first time they had heard of the idea of a computer! Newspapers and magazines all over the world wrote articles about the amazing new “electronic brain.”

But already, Eckert and Mauchly had ideas for new, better computers. They started their own company, designing and building computers and selling them. And they did—they built two new types of computers and they continued to work with computers for the rest of their careers. Although they never made a lot of money, they will always be remembered as the first computer **engineers**.

As for ENIAC, the Army used the machine for nine more years, until it was turned off for the last time in 1955. You can now see some parts of ENIAC at the Smithsonian Museum in Washington, D.C. . . .